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## Second C. A. A. Annual Report Transmitted to Congress

### Stresses Healthy Growth of Civil Aviation

The Second Annual Report of the Civil Aeronautics Authority, submitted jointly by the Civil Aeronautics Board and Civil Aeronautics Administration, stresses the rapid expansion and healthy development of civil aviation in the United States during the fiscal year ended June 30, 1940. The report pointed out that the domestic airlines had left far behind the chaotic financial condition which existed when the Authority was inaugurated in August 1938. The carriers had also completed an unprecedented year of safe flying, without fatal injury to a passenger or crew member, and this achievement is attributed to the constant cooperation between the operators, pilots, ground personnel, equipment manufacturers and Government and private agencies. To this record was added that of the Civilian Pilot Training Program where 420,000 hours were logged by 9,977 student pilots in 1,200 aircraft. There was only one fatality during the fiscal year, the program proving itself many times safer than any previous civilian flight training given.

#### 56.8 Percent Increase in Pilots

The following increases in the various phases of civil aviation were listed:

Four thousand, four hundred and ninety-six miles were added to the domestic civil airways; 99,126,719 miles were flown; and 2,225,319 revenue passengers carried by United States air carriers in domestic operations, an increase of 22,732,003 and 841,896, respectively, over the preceding year, and mail

pound-miles totaled 18,675,595,509, an increase of 2,858,068,537. Operating profits for such operations jumped \$4,751,717.82, reaching a 1940 total of \$6,150,399.03.

	Percent of increase
Pilots certificated.....	56.80
Aircraft certificated.....	24.40
Regularly scheduled air carrier operations within the continental United States and Hawaii:	
Revenue passengers transported....	58.24
Pound-miles <sup>1</sup> of mail carried.....	18.07
Pound-miles of express carried....	22.39
Regularly scheduled air carrier operations outside of the continental United States and Hawaii:	
Passengers transported.....	20.54
Pounds of mail carried.....	49.88
Pounds of express carried.....	-4.59

<sup>1</sup>A pound-mile is the unit which measures the carriage of 1 pound over a distance of 1 mile.

#### Nearly 100,000,000 Passenger-Miles Flown

A total of 8,649,694 revenue miles were flown by United States air carriers in foreign and territorial operations, and in these operations there was an increase over 1939 of 27,510,985 passenger-miles flown, making a total of 98,364,940 for the fiscal year 1940. Mail-pounds carried for foreign operations were 817,674, an increase of 272,120 over 1939.

The Authority published two traffic surveys, one on station-to-station traffic for August 1939, the other on origin and destination for November 1939. These studies provided useful bases for deciding questions concerning new routes, both in undeveloped and in competitive territory.

In connection with air-mail rates paid by the Government to the operators, the

Authority instituted a review of the rates of 9 carriers to ascertain their fairness. All other carriers had previously requested such a review. The Authority stated that it felt that at all times it should know if the total revenues received by the carriers were greater or less than those required to enable them (as provided in the Civil

(Continued on the next page.)

### Western Air Gets International Route

A certificate of public convenience and necessity, authorizing it to provide air transportation service between Great Falls, Mont., and Lethbridge, Alberta, Canada, via Cut Bank—Shelby, Mont., has been granted to Western Air Express, Inc., according to announcement made by the Civil Aeronautics Board.

The new route of 195 miles will effect an extension of the route from Salt Lake City, Nev., to Great Falls, now operated by Western Air Express. At Lethbridge, connection will be made with the transcontinental and with the Edmonton-Calgary routes of Trans-Canada Air Lines. At Edmonton, Trans-Canada connects with a route to White Horse, Yukon Territory, Canada, where another connection is made with Pacific Alaska Airways, which operates between Juneau and Fairbanks, Alaska.

In the opinion of the Board, the new service will fill a gap in the air facilities of commercial intercourse between the United States and Canada and substantially aid in the commercial and economic development of Alaska by affording better connections thereto. It will, by virtue of its stop at Cut Bank—Shelby, give air service to Glacier National Park visitors during the tourist season, from June 15 to September 15.

The Board at the same time denied the application of Inland Air Lines for a certificate authorizing it to perform air transportation service between Great Falls and Lethbridge.



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## Annual Report

(Continued from preceding page.)

Aeronautics Act under "honest economical, and efficient management to maintain and continue the development of air transportation to the extent and of the character, and quality required for the commerce of the United States, the Postal Service, and the national defense." It was added that there was reason to expect that the time was fast coming when, due to increases in commercial revenues, a substantial number of the carriers would no longer need air-mail compensation beyond reasonable pay for transporting the mail purely as cargo. During the fiscal year, 11 rate cases were decided.

Following investigation of passenger and express rates, many obvious inconsistencies and inequalities were being adjusted. Hearings were conducted in an investigation of the Air Travel Card Plan. Preliminary studies were undertaken to determine the economic aspects of air express, and a study of foreign rates was conducted.

A final order was issued with regard to consolidation, merger, and acquisition of control in one case. Two others were pending. Final orders concerning interlocking relationships were issued in 46 cases. Carriers filed 147 agreements for which the approval of the Authority was sought.

### Foreign Air Carriers Expand

In the foreign field, United States air carriers inaugurated service across the Atlantic, and 1,898 passengers, 181,163 pounds of United States and 131,147 pounds of foreign mail were carried. An application for authority to institute service between England and the United States was granted to Imperial Airways, Ltd. (later this authority was transferred to a corporation called "Airways (Atlantic), Ltd."). Temporary authority was granted to Compagnie Air-France Transatlantique. A new United States company, American Export Airlines, Inc., applied for a certificate to operate transatlantic services. Service to Alaska, between Seattle and Juneau, was begun, and service across the Pacific from San Francisco to Auckland, New Zealand, was authorized. A number of cases involving Inter-American transportation were pending and there had been a constant increase in the number of requested authorizations for nonscheduled flights to foreign countries in America. Cooperating with the State Department, the Authority assisted in an attempt to establish a permanent American Aeronautical Commission.

The war abroad has brought many aviation problems, and regular conferences have been held with the State, War, and Navy Departments on these problems. Reports by the Authority's staff on civil aeronautics in foreign countries were made available to other agencies of the Government, and an

Authority representative participated as one of the technical advisers at the Second Inter-American Radio Conference at Santiago, Chile.

### C. A. A. Safety Work Commended

In the field of safety regulation, the National Safety Council this year commended the Authority's work. Seven regional officers were maintained throughout the country and a State coordinator was appointed to establish a liaison between the Federal Government and the State agencies. A healthy cooperative spirit continued to develop as the result of these and other similar activities.

Among other duties carried out by the Authority were the examination and certification of airmen, requiring among other things over 10,000 medical examinations of C. P. T. P. applicants. Approximately 74,371 airman (pilots, inspectors, mechanics, traffic men, etc.) certificates (exclusive of air carrier airman certificates) were granted; 720 approvals of new designs or changes of old designs were given aircraft, engines, propellers, and appliances. The new Douglas DC-4, the Boeing Stratoliner with supercharged cabin, the Erco 415 spin-proof lightplane and the first 2,000 horsepower engine were among these. Some 27,000 physical examinations of aircraft were made. Production certificates were held by 267 manufacturers; cooperation with other Government agencies in radio development, national defense, and elimination of hazards to air commerce; establishment of a training course for all senior air carrier inspectors; cooperation in the development of technical safety devices; and examination of civilian flying schools, and repair stations, were also explained in the report.

### Civilian Pilot Training Expanded

The Civilian Pilot Training Program was extended to 435 colleges, 528 civilian flight schools and 76 noncollege centers. Secondary flight instruction was afforded 86 students and refresher courses to 403 instructors. Pilot-training research continued, with courses given to train pilots to operate conventional and unconventional aircraft.

As of June 30, 1940, there were in operation 28,745 miles of lighted airways in the continental United States, having 2,205 beacons and 296 lighted intermediate landing fields, 27,068 miles of teletype circuits for weather reporting, 11,714 miles for traffic control, 329 teletype stations, 105 full-power radio range and communication stations with broadcast facilities, and 256 of other types, including beacons and markers. Congress appropriated \$2,000,000 for further improvement and extension of these aids; 3,400 miles of new airways, including 200 airway beacons and 29 intermediate fields were substantially completed, and surveys were under way for 1,500 miles more. Forty-seven

percent of the civil airways were under traffic control on June 30, 1940. A controlled-light approach and landing system was developed and tested, and data were collected on the feasibility of establishing ocean seadromes and ocean beacon weather stations. Further experiments were made on new types of air navigation charts and the usefulness of marine lighthouses in aircraft operation. WSY, the high-powered radio station with the central unit at LaGuardia Field, the transmitting unit at Sayville, Long Island, N. Y., and the receiving unit at Barnegat, N. J., was opened with a range for direct communication to Europe, the Azores, Bermuda, and Newfoundland. Facilities for trans-Pacific radio operations were in the planning stage, as well as others at Seattle and Anchorage for Alaskan flying. Two stations were substantially complete in Hawaii, and a third was being built. Those at Johnston and Palmyra Island were being constructed, and surveys were finished for the stations at Jarvis Island and French Frigate Shoals. Ultra-high-frequency equipment was installed on many of the domestic airways and blind landing equipment at a selected group of airports.

At the Medical Science Station in Kansas City, Mo., physiological projects in aviation medicine, with especial attention to anoxemia and pilot fatigue, were progressing.

#### Cooperates on Seaplane Base Program

The Nation-wide program for seaplane bases made usable some 300 locations, and an average of 940 airport consultations a month resulted from the cooperation between the Authority and cities and other interested agencies. In 29 States, representatives of the Authority and the State planning boards cooperated in preparing typical State airport development plans. The development of the Washington National Airport had progressed to the stabilization and paving of runways, and contracts had been let or were under negotiation for all essential facilities.

The Air Safety Board completed investigations of 2,565 accidents in which 11 public hearings were held.

Petitions were filed in court during the year covered by this report requesting review of two decisions of the Authority. The city of Newark sought review by the United States Circuit Court of Appeals for the Third Circuit of a decision which designated Newark and New York as coterminals in the New York-Northeastern New Jersey Metropolitan District. Eastern Air Lines, Inc., sought review by the Court of Appeals of the District of Columbia of a decision establishing additional air service in Florida, in which decision the Authority denied in full the application of Eastern Air Lines, Inc., and granted in part the application of National Airlines, Inc. The litigation in this case was not pressed by the petitioner and on its own motion the case was dismissed.

## N. A. C. A. Report Lauds Civilian Pilot Training, Urges More Research

### Committee Predicts War Trends Will Benefit Commercial Aviation

The current Civilian Pilot Training Program of the Civil Aeronautics Administration will stimulate private flying in the United States and "give it an impetus which will have far-reaching results in the years to come."

This statement was contained in the National Advisory Committee for Aeronautics' annual report, which was transmitted to Congress by President Roosevelt on January 13. Excerpts from the report follow:

*"The trend in aircraft development.—*The outstanding trend produced by the present war in Europe is toward the development of aircraft having higher speeds and greatly increased armor and armament.

*"To meet the requirements of increased air speed, special research studies have been made of airplanes in current production and also of experimental types. These studies have included investigations in the full-scale wind tunnel in the Committee's Langley Field laboratory and also the study of the drag of component parts.*

*"The demand for increased speed has resulted in the need for much greater horsepower. Whereas pursuit airplanes of a year ago were equipped with engines of 1,000 horsepower, they are now being designed with single engines of 2,000 horsepower. The trends toward increased speed and higher ceiling, toward larger and heavier engines, toward increased armor and armament, necessitate larger and much heavier types of airplanes. This condition has established a definite trend toward higher wing loadings.*

*"With increased wing loading, it has become necessary to extend the study of improved high-lift devices and of lateral-control devices other than ailerons so as to permit the development of a full-span flap. The trend toward higher speeds has brought many attendant problems, such as the need for improved methods of cowling and cooling of engines, the design of wing ducts, and of ducts for the cooling of engine auxiliaries. High operating speeds also make it necessary to give special attention to the design of air scoops and ventilators.*

*"Relation of research to commercial air transportation and to private flying.—*The United States has an outstanding place in commercial and private aviation. The current civilian

pilot training program of the Civil Aeronautics Administration will, without doubt, serve further to stimulate private flying in the United States and to give it an impetus which will have far-reaching results in the years to come. The progress in civil and commercial aviation in the United States has been due to a combination of causes. The responsible Government agencies have provided indispensable assistance in the encouragement and regulation of civil and commercial aviation. The American aircraft industry has been keenly alert to improve the design and quality of the aircraft used. The air transport lines have shown initiative and efficiency in operation and have been thorough in their efforts to eliminate accidents and the causes of accidents. The results of the committee's scientific researches, even though now initiated for the most part to meet military needs, are generally applicable to civil aircraft and are in no small measure responsible for their high efficiency and safety.

*"In the present emergency when the needs of national defense are predominant, ways and means should nevertheless be found to sustain and continue the advance of commercial aeronautics. Air-mail and passenger transportation has already become of great value to the Nation and in time of war would be essential to our industrial effectiveness.*

*"In the scientific study of the problems of flight, the talent of America has been marshalled through the technical subcommittees and through the stimulation and coordination of research in scientific and educational institutions. Progress in military and naval aviation will find reflection in improved performance, efficiency, and safety of civil and commercial aviation. The committee believes that commercial aviation will prove of ever-increasing importance to the United States in promoting international trade and good will, especially in the Western Hemisphere. When the present wars have ended, aviation will have an opportunity to prove its real value to civilization in shortening the distances between nations and in facilitating international trade and commerce. When that day comes, the extension of world-trade routes of the air will bring some compensation for the awful destruction wrought and to be wrought by military aviation before peace again prevails."*



# State Aviation Officials

## Members of Aero Bodies and Official Contact Men Listed by States

This list, prepared by the State Coordinator of the Civil Aeronautics Administration, presents the names of the State aviation personnel in States where a recognized aeronautical agency is in existence and in States where a recognized aviation agent or an aviation division is operating under some previously existing State agency. In States which have no such department, division, or agent, the offices of the Governors are listed as the official contacts. An asterisk is placed before the name of the contact man in each State.

(Revised to January 1, 1941)

### ALABAMA

#### Alabama State Aviation Commission:

Hayden Brooks, chairman, 230 South Thirty-first Street, Birmingham.  
T. D. McGough, McGough Chevrolet Co., Montgomery.  
O. N. Barney, Bates Field, Mobile.  
Frank Hulse, Southern Airways, Municipal Airport, Birmingham.  
B. M. Cornell, Alabama Polytechnic Institute, Auburn.  
\*Asa Rountree, Jr., Director of Airfields and Development, 425 South Union Street, Montgomery.

### ARIZONA

By virtue of the power vested in it under the Constitution and laws of Arizona, the Arizona Corporation Commission has assumed jurisdiction over part, at least, of the aeronautical activities within the State. This jurisdiction pertains to aircraft common carriers.

#### Arizona Corporation Commission:

\*W. M. Cox, chairman, Phoenix.

### ARKANSAS

There is no aeronautical regulatory body in Arkansas at the present time.

#### Office of the Governor.

### CALIFORNIA

California has no officially constituted aeronautical regulatory or promotional body.

#### Office of the Governor

### COLORADO

#### Colorado Aeronautics Commission:

\*Jerry Vasconcelles, chairman, 413-16 Security Building, Denver.  
Terrell C. Drinkwater, Denver.  
Charles Boettcher II, Denver.  
Major F. W. Bonilla, Denver.  
John H. Stark, Denver.

### CONNECTICUT

#### Department of Aeronautics:

\*Charles L. Morris, Commissioner of Aeronautics, P. O. Box No. 537, Hartford.  
George P. Kane, Deputy Commissioner, P. O. Box No. 537, Hartford.  
Dr. Wm. B. Smith, chief flight surgeon, P. O. Box No. 537, Hartford.

#### State Airport Commission:

Mayor H. E. Johnson, chairman, P. O. Box No. 276, Hartford.  
Brig. Genl. Reginald B. DeLacour, State Armory, Hartford.  
Dr. Luther Heidger, 972 East Broadway, Stratford.  
\*Charles L. Morris, P. O. Box No. 537, Hartford.

### DELAWARE

There are no State aviation officials in Delaware.

#### Office of the Governor.

### FLORIDA

The legislation of Florida does not provide for any State aeronautical regulatory body. The aviation promotion work is placed under the direction of the State Road Department.

#### State Road Department of Florida:

\*Director, Aviation Division, Room 10, Martin Building, Tallahassee.

### GEORGIA

#### Georgia Aviation Commission:

\*Marvin Griffin, chairman, State Capitol, Atlanta.  
Richard C. Job, director of the Georgia State Planning Board, East Point.  
W. D. Brantley, chief engineer, State Highway Department.

(See STATE OFFICIALS, page 47)

## Aeronautical Legislation Pending

Following is a listing and a brief summary of proposed aeronautical legislation now pending before the Seventy-seventh Congress:

H. R. 1003—AERONAUTICAL RESEARCH; a bill authorizing an appropriation for the construction and equipment at Morgantown, W. Va., of research facilities for aeronautical research; referred to the Committee on Military Affairs.

H. Res. 18—AIRLINE ACCIDENTS; a resolution providing for a special committee to investigate airline accidents; referred to the Committee on Rules.

S. 1—CIVIL AERONAUTICS AUTHORITY; a bill providing that the Civil Aeronautics Authority shall be an independent establishment of the Government; referred to the Committee on Interstate Commerce.

S. 7—AVIATION SALVAGE; a bill to enact the Aviation Salvage at Sea Convention into statute law in the United States; referred to the Committee on Commerce.

S. 8—DEVELOPMENT OF AIRCRAFT LANDING AREAS; a bill to provide for Federal cooperation with the States in the development of aircraft landing areas adequate to provide for the national defense, the Postal Service and civil aeronautics; referred to the Committee on Commerce.

S. 17—PROHIBITING EMPLOYMENT OF ALIENS IN AIRCRAFT INDUSTRY; a bill prohibiting the employment of aliens within the United States by persons manufacturing aircraft for the Government, and for other purposes; referred to the Committee on the Judiciary.

S. 53—AIRCRAFT SAFETY; a bill to amend the Civil Aeronautics Act of 1938 to provide additional safety for passengers in aircraft; referred to the Committee on Commerce.

S. Res. 7—COMMITTEE ON CIVIL AVIATION AND AERONAUTICS; a resolution amending the rule XXV of the Standing Rules of the Senate by inserting "Committee on Civil Aviation and Aeronautics, to consist of 13 Senators"; referred to the Committee on Rules.

H. J. Res. 51—PROMOTION OF SAFETY IN AIR TRAVEL; a joint resolution for the promotion of safety in air travel by the con-

struction of uniform identifying land markers; referred to the Committee on Interstate and Foreign Commerce.

S. 290—CIVILIAN GLIDER PILOT TRAINING; a bill to establish a Civilian Glider Pilot Training Division in the Civil Aeronautics Authority; referred to the Committee on Commerce.

## Richard E. Elwell Appointed Attorney in Compliance Service

Richard E. Elwell, World War veteran and former attorney for the late Anthony G. H. Fokker and the Fokker Aircraft Corporation, has been appointed Chief Attorney for the Compliance Service of the Civil Aeronautics Administration, Col. Donald H. Connolly, Administrator, has announced.

Mr. Elwell will act as legal advisor to the Administrator, supervising the enforcement of safety provisions of the Civil Aeronautics Act, the administration of the Civilian Pilot Training Program, and other matters connected with the office of the Administrator.

While associated with the Fokker Corporation, in 1929 and 1930, Mr. Elwell drafted an operations manual, the adoption of which by that company was one of the first steps to be taken toward flying control in the aviation industry.

Mr. Elwell has had wide experience in legal departments of various governmental agencies, including work in the office of the Alien Property Custodian; Special Assistant to the Attorney General handling War Claims; Division Counsel for the N. R. A. and General Counsel for the Prison Industries Reorganization Administration in which post he rendered outstanding service in 22 states.

He also was connected with the joint committee which investigated the Tennessee Valley Authority, and comes to the C. A. A. from Interior, where he was engaged in reorganizing the office of the Solicitor for that Department.

Mr. Elwell was educated at the University of California and George Washington University and holds the degrees of A. B. and L. L. B.

## Aero Gas Output Up in November

Production of aviation gasoline during November totaled 1,386,000 barrels, an increase of 266,000 barrels over the October output of 1,120,000 barrels, according to the Bureau of Mines. Production in November 1939 was only 811,000 barrels.

Exports during November, including 178,000 barrels of antiknock compounds, totaled 535,000 barrels, compared with 291,000 barrels exported in the previous month. Stocks at the end of November aggregated 6,206,000 barrels while stocks a month before were 6,142,000 barrels.

## Hinckley Outlines 1942 C. P. T. Program

Under the provisions of the new Budget, if enacted, the Civilian Pilot Training Program could train during fiscal 1942 approximately 30,000 beginners and approximately 6,000 secondary students who already have graduated from the beginners' course, according to Assistant Secretary of Commerce Robert H. Hinckley. Of course, he added, the number of beginners could be cut down and the number of advanced students increased as desired.

"What this training program has to offer is the organized machinery for pilot training represented by going ground schools at more than 700 colleges, and going flight work at an equal number of flying schools," he said. "More than 200 of these are teaching courses above the primary stage.

"This mass of training centers, by June, will have given in two years, more than 90,000 flight courses to about 70,000 individuals. About 55,000 of these are students, from 19 to 26, with two years' college, who have passed rigid physical examinations closely paralleling those of the armed forces.

"The Civilian Pilot Training Program can train a mass of fliers in the first stages of almost any type of aviation desired.

"The whole question of policy lies in how closely this training is related to the armed forces. Up to last July, it was built upon a civilian philosophy, as a part of the development of civil aviation. The details have been cleared

with the armed forces. Although the viewpoint has been shifted materially since July, we have had to work on a civilian basis, which means as a sideline to each student's normal college life. I wish neither to condemn nor praise this. It simply is a fact.

"These boys largely are in college. The national policy, set by the draft, was, to defer calling college students.

"Even so, more than 2,600 of these trainees already have volunteered and been accepted by the armed forces. Almost as important, more than 500 flight instructors trained in this program have left it to go to Army schools, the armed forces, or the air lines.

"I am not worried about the attitude of American youth, once the policy is clear. All we have to do is to set down plainly the relationship desired, however close, between this program and the armed forces, and our students will meet the challenge.

"If a direct relationship is the need, then our trainees should be placed in some definite status related to the armed forces before we begin their training. That is a point of policy beyond the power of this Department."

## Airspace Reservations

### C. A. A. Calls Attention of Pilots and Photographers To Executive Order

The Civil Aeronautics Administration has called to the attention of airport managers, pilots, and aerial photographers provisions of Executive Order No. 8381, dated March 22, 1940, pertaining to the making of photographs of military and naval installations or equipment. Pertinent excerpts from the order are given in the following:

It shall be unlawful to make any photograph, sketch, picture, drawing, map, or graphical representation of such vital military and naval installations or equipment without first obtaining permission of the commanding officer of the military or naval post, camp, or station concerned, or higher authority, and promptly submitting the product obtained to such commanding officer or higher authority for censorship or such other action as he may deem necessary. **ANY PERSON FOUND GUILTY OF A VIOLATION OF THIS SECTION**

**SHALL UPON CONVICTION BE PUNISHED BY A FINE OF NOT MORE THAN \$1,000 OR BY IMPRISONMENT FOR NOT MORE THAN ONE YEAR, OR BY BOTH SUCH FINE AND IMPRISONMENT.**

1. All military or naval installations and equipment which are now classified, designated, and marked under the authority or at the direction of the Secretary of War or the Secretary of the Navy as "secret," "confidential," or "restricted," and all military or naval installations and equipment which may hereafter be so classified, designated, and marked with the approval or at the direction of the President, and located within:

(a) Any military or naval reservation, post, arsenal, proving ground, range, mine field, camp, fort, yard, station, district, or area.

(b) Any defensive sea area heretofore or hereafter established and existing under authority of section 44 of the United States Criminal Code, as amended by the act of March 4, 1917.

(c) Any airspace reservation heretofore or hereafter established and existing under authority of section 4 of the Air Commerce Act of 1926.

(d) Any naval harbor closed to foreign vessels.

(e) Any area required for fleet purposes.

(f) Any commercial establishment engaged in the development or manufacture of military or naval arms, munitions, equipment, designs, ships, or vessels for the United States Army or Navy.

Furthermore, flights of aircraft over many areas listed above are a violation whether or not aerial photographs are being made. To prevent a heavy penalty being imposed, pilots are again warned to acquaint themselves with any such areas which may be in their locality or within their flight courses and to avoid flying over them.

The seriousness of flights over these areas is such that any offender will be penalized to the fullest extent of the law, and ignorance of such areas will not be an excuse for any violations of this Order.

### Designation of Medical Examiners

During the month of December, 1940, the following-named physicians officially were authorized to make physical examinations for the Administration.

ARKANSAS.—Dr. Rufus C. Shanlever, 624 South Main, Jonesboro.

(See MEDICAL EXAMINERS, page 51)

## CIVIL AERONAUTICS BULLETINS

Listed below are the Civil Aeronautics Bulletins designed for use in the Civilian Pilot Training Program. Copies may be obtained from the Superintendent of Documents, Government Printing Office, Washington, D. C.

FLIGHT INSTRUCTOR'S MANUAL (No. 5)—137 pages, illustrated. Price 30 cents.

DIGEST OF CIVIL AIR REGULATIONS FOR PILOTS (No. 22)—71 pages, illustrated. Price 20 cents.

CIVIL PILOT TRAINING MANUAL (No. 23)—257 pages, illustrated. Price 50 cents.

PRACTICAL AIR NAVIGATION (No. 24)—239 pages, illustrated. Price \$1.00.

METEOROLOGY FOR PILOTS (No. 25)—167 pages, illustrated. Price 75 cents.

AERODYNAMICS FOR PILOTS (No. 26)—158 pages, illustrated. Price 30 cents.

PILOTS' AIRPLANE MANUAL (No. 27)—150 pages, illustrated. Price 30 cents.

PILOTS' POWERPLANT MANUAL (No. 28)—392 pages, illustrated. Price 75 cents.

PILOTS' RADIO MANUAL (No. 29)—98 pages, illustrated. Price 25 cents.

GROUND INSTRUCTOR'S MANUAL (No. 30)—51 pages, illustrated. Price 15 cents.

## Air Safety

### Airport Traffic Ills Discussed by Board

#### Safety Bulletin Offers Suggestions To Solve Runway Problems

The Civil Aeronautics Board, in the latest of its series of brief safety bulletins, turns to the problems of airport traffic. In its bulletin, the Board asks pertinent questions, and offers suggestions and advice. The full text follows:

#### ARE YOU A SQUATTER?

Do you squat at the end of a runway, headed into the wind, while all the world above you circles and tries to guess your intentions?

If you are not ready to take off immediately on reaching your take-off position, do not turn into the wind. You may be preventing others from landing.

If you have adjustments to make, instructions to give, or time to pass, do it without blocking traffic.

Do not point your nose up-wind unless you are ready to take off immediately.

[Individual Accident Reports]

#### TWO INJURED IN CRASH WHILE CHASING COYOTE

Loss of control while maneuvering at a low altitude caused the crash on April 18, 1940, near Owinza, Idaho, in which commercial pilot Kenneth M. Seeds received minor injuries and his passenger, Kenneth Morris, serious injuries.

Pilot Seeds and his passenger were engaged in an aerial coyote hunt near Owinza when three coyotes were sighted in sagebrush on a mesa. Immediately the aircraft was headed in pursuit of the animals, about 70 feet above the mesa, the elevation of which was 4,200 feet. Two of the animals subsequently were shot and the third wounded. To

aid the gunner in obtaining a shot at the running coyote the pilot executed a turn and sideslipped the aircraft. When the aircraft had thus slipped to an altitude of about 25 feet the pilot noticed he was headed toward rising ground and immediately attempted a turn. His plane settled into the sagebrush and overturned with such force that the fuselage was broken near the passenger's seat and the aircraft demolished.

*Probable Cause.*—Loss of control while maneuvering at a low altitude.

#### LOW ALTITUDE STALL CAUSES FATAL CRASH

A stall during a landing approach at a farm field near Averyville, N. Y., caused the fatal crash of student pilot Allen R. Wescott on June 10, 1940.

Pilot Wescott, who had logged 27 hours and 15 minutes flying experience, on June 8 flew a Piper model J3F-50 from Syracuse, N. Y., to his mother's farm near Averyville for a week-end visit. At the time of his landing here, on a field about 850 feet long, there was an east wind blowing. Later in the day he flew to the nearby Lake Placid, N. Y., Airport where he stored the plane.

On the day of the crash Wescott took off from the Lake Placid Airport, ostensibly on the return flight to Syracuse, but about 45 minutes later returned to the vicinity of his mother's farm. Here he attempted a landing at the field he had used two days earlier. This time the wind was from the west and he had to make a high approach to clear farm buildings at the east end of the field. In attempting to lose altitude after the approach, the pilot stalled the aircraft and it crashed in a dive from approximately 50 feet and was demolished.

*Probable Cause.*—Pilot stalled the aircraft during a landing approach.

*Contributing Factors.*—1. Selection of unsuitable landing area. 2. Inexperience of the pilot.

#### ILLNESS OF PILOT CAUSES CRASH

Loss of consciousness while piloting his aircraft caused the crash which resulted in serious injury to pilot Robert F. Neel at Port Neches, Tex., Airport on January 16, 1940.

On the day of the accident, pilot Neel, who held a limited commercial certificate, took off on a cross-country flight to Beaumont, Tex. According to witnesses, the aircraft attained an altitude

of about 2,000 feet, made a flat turn to the left and entered a shallow dive under full power. There was no apparent attempt to control the plane and it struck the ground, bouncing forward about 100 feet and coming to rest in a normal landing attitude. The aircraft, a Luscombe model 8, was demolished. According to the pilot, he had fainted shortly after take-off. Up to the time of the accident he had recorded 127 hours of flying experience.

*Probable Cause.*—Pilot lost consciousness while piloting aircraft.

*Contributing factor.*—Temporary physical ailment of the pilot.

#### LOW STEEP TURN CAUSES CRASH

A stall during a steep turn at low altitude caused the crash on July 3, 1940, at the Willoughby, Ohio, Airport, in which private pilot Raymond L. Votaw received serious injuries and his passenger William Burnip minor injuries.

Pilot Votaw, accompanied by his passenger, had just taken off from the airport when the engine missed at an altitude of about 50 feet. After the engine resumed normal operation, the pilot climbed the aircraft, a Taylorcraft model BF, to about 200 feet and made a 180° turn. Returning to the center of the field, he made another turn to enter a landing approach, but observed that he was overshooting the runway so he applied power and circled the field once more. As the aircraft was headed down wind the engine missed again. Votaw attempted a steep turn for another approach, but the plane stalled at an altitude of about 40 feet and fell into an incipient spin. The airplane was demolished in the resulting crash and the cause of the engine trouble was not determined.

*Probable Cause.*—Pilot stalled the aircraft executing a steep turn at low altitude.

*Contributing Factor.*—1. Inexperience of the pilot, whose last recorded flying experience showed 74 hours as of March 1940. 2. Manufacturing of the engine.

#### "MYSTERY" CRASH ASCRIBED TO LOSS OF CONTROL

Loss of control of an aircraft during an instructional flight caused a crash in which instructor Thomas B. Postell received fatal injuries and student pilot Walter B. Hardee minor injuries near Hialeah, Fla., on July 26, 1940.

Instructor Postell and student Hardee took off from the Miami, Fla., Airport on the morning of the accident for an instructional flight in connection with the Civilian Pilot Training Program. About 20 minutes later, they made a landing in a field near Hialeah, which is situated approximately two miles west of Miami Airport. Here the instructor signalled two other students who were practicing figure eights to land and then instructed

## \*\*\*\*\*CAMPAIGN AGAINST CRASHES\*\*\*\*\*

them to proceed to some other locality to carry on their practice. They complied with this order. About 15 minutes later, a Navy pilot sighted wreckage near Hialeah which proved to be that containing instructor Postell and student Hardee. The instructor was fatally injured and the student sustained a mild concussion which made him unable to recall events leading up to the accident.

Subsequent investigation disclosed no evidence of either structural or control failure but showed the plane had crashed with terrific force on its left wing and side of the fuselage.

**Probable Cause.**—Loss of control of aircraft during instructional flight.

### STEEP TURN BRINGS FATAL STALL

A low altitude stall during a steep turn caused the crash near Jacksonville, Ill., on May 23, 1940 in which private pilot Louis B. Cox and student pilot Robert T. Peyton were fatally injured.

Shortly after a normal take-off from the Jacksonville Municipal Airport, the aircraft was observed to make a steep 180° turn at an altitude of about 300 feet, three-quarters of a mile north of the airport. During this turn it lost about 150 feet of altitude and stalled over a wooded pasture. Dropping in heavily, it struck a tree before coming to rest on the ground in a nearly vertical position. Pilot Cox had recorded 75 hours of flying experience as of May 9, 1940.

Investigation revealed that Cox had planned to check Peyton's flying and the craft's dual controls were connected and operative for this purpose.

**Probable Cause.**—Pilot stalled the aircraft at low altitude while executing a steep turn.

### PILOT KILLED SIDE-SLIPPING FOR LANDING

A stall during an intentional sideslip for a landing approach caused the crash in which private pilot William M. Watson was killed and his passenger Lee L. Robinson seriously injured, near Charleston, S. C., on August 18, 1940.

Pilot Watson was returning from a local flight, and upon reaching James Island Airport, Charleston, he entered a landing approach, gliding over the airport boundary at an altitude of about 200 feet. Here he opened the throttle and circled the airport for another approach. This time he was at a slightly higher altitude than in the first approach. Next he was observed to execute a series of sideslips. During the third of these, the aircraft stalled and fell into a right spin from an altitude of about 250 feet, continuing in this spin until it struck the ground and was demolished.

**Probable Cause.**—Pilot stalled the airplane while executing an intentional side slip during a landing approach.

**Contributing Factor.**—Inexperience of pilot, who had logged 59:25 hours in the type aircraft involved.

### STUDENT DIES AFTER UNAUTHORIZED ACROBATICS

Loss of control of his aircraft while performing unauthorized acrobatics during a practice flight caused the fatal crash of Earl R. Beckham, a student in the Civilian Pilot Training Program, near Milledgeville, Ga., on July 28, 1940.

Beckham, who had been practicing solo take-offs and landings for 15 minutes, taxied in and requested permission from his instructor to execute spins. After being refused permission he taxied away, took off, and flew to a point a few miles from the airport where, at approximately 2,000 feet, he did two loops and a spin. The aircraft was last seen in a power-off dive from which recovery was not effected, resulting in its destruction and fatal injuries to the pilot. Witnesses stated the power was applied just before the plane struck the ground. The aircraft, an Aeronca Model 65-TC, struck the ground with terrific force and at a steep angle.

Subsequent investigation disclosed no evidence of either structural or control failure in flight and the student was not equipped with a parachute.

**Probable Cause.**—Inexperienced pilot lost control of aircraft while performing unauthorized acrobatics.

**Contributing Factor.**—Lax school discipline which made possible such a casual disobedience of orders.

### SAILPLANE CRASHES AFTER DOWNWIND TURN

When he stalled his sailplane while attempting a downwind turn near Rosamond, Calif., on March 17, 1940, Byron W. Woods, an uncertificated pilot, crashed and was seriously injured.

Pilot Woods was flying the Volmer sailplane in a wind of about 10 miles per hour when, the evidence indicates, he stalled it in a downward turn. The aircraft fell off into a spin, which continued until it struck the ground and was demolished. The pilot had no recollection of the details of the flight.

**Probable Cause.**—Pilot stalled the sailplane while executing a turn.

**Contributing Factor.**—Inexperience of the pilot, who had no recorded experience with sailplanes.

### DEATH AND INJURY FOLLOW CARELESS FLIGHT

Failure to observe and avoid an obstruction while flying at a low altitude

caused the crash on May 12, 1940, near Athens, N. Y., in which commercial pilot Louis S. Hatzfeld was seriously injured and his passenger, Georgette Kathryn Crayne was killed.

Pilot Hatzfeld and his passenger took off from the Troy, N. Y., Airport on a cross-country flight to New York City and the evidence indicates that one objective of the flight was to observe a boat race from Albany to New York. The plane was to report the respective positions of the contenders to a contestant who was carrying a radio receiving set.

Observers stated that the plane was flown at very low altitudes, several times circling positions of the contestants, and once being seen to swoop under a Hudson River bridge. Near Athens, observers saw the aircraft go into a sudden climb from an altitude of about 50 feet and come up under some high-tension wires stretched over the river at a height of approximately 165 feet. The aircraft struck these lines, becoming enmeshed and catching fire before falling into the river. The passenger was drowned in the submerged, demolished plane but the pilot was rescued, seriously injured, by several small boats which converged where the plane struck the water.

**Probable Cause.**—Failure of the pilot to observe and to avoid an obstruction while flying at a dangerously low altitude.

**Contributing Factor.**—Carelessness of pilot.

## New Aeronautical Publications

Among recent Government publications dealing with the subject of aeronautics are the following:

WAR DEPARTMENT—TECHNICAL MANUAL 1-411: airplane hydraulic systems and miscellaneous equipment. 106 pages, illustrated. Price 15 cents. Classification number W 1.35: 1-411.

WAR DEPARTMENT—TECHNICAL MANUAL 8-310: notes on physiology in aviation medicine. 95 pages. Price 15 cents. Classification number W 1.35: 8-310.

STATE DEPARTMENT—EXECUTIVE AGREEMENT SERIES 181: naval and air bases, arrangement between United States and Great Britain. 4 pages. Price 5 cents. Classification number S 9.8: 181.

HOUSE APPROPRIATIONS COMMITTEE HEARINGS—CIVIL FUNCTIONS APPROPRIATION: on the first supplemental civil functions appropriation bill for 1941; for four agencies, including the Civil Aeronautics Authority. 93 pages. Price 15 cents. Classification number Y 4.Ap 6/1: C 49/3/941/supp.

NATIONAL BUREAU OF STANDARDS—RESEARCH PAPER 1329: an improved radio sonde and its performance. Pages 327-367, illustrated. Price 10 cents. Classification number C 13.22/a: 1329.

When ordering these publications, send remittance by postal money order, express order, coupons, or check to the Superintendent of Documents, Government Printing Office, Washington, D. C. Always give title, issuing office, or classification number when listed.



# Manufacturing and Production

## C. A. A. Prepares Summary of Structural Failures and Defects Reports

### To Aid Aircraft Designers In Safety Improvements

A summary of structural failures and defects reports received by the Civil Aeronautics Administration for the period January 1, 1935, to October 25, 1940, has been prepared by the Aircraft Airworthiness Section.

"This summary should prove helpful to aircraft designers and constructors and other interested parties as a guide on where to place special emphasis in their work leading to an improvement in the safety of flight operations," the Section said in making public the report. "A number of cases covered by this summary have resulted in the projection, with the cooperation of the interested manufacturer, of corrective measures." The text of the report follows:

#### Introduction

The purpose of this report is to summarize the air-frame<sup>1</sup> structural failures and defects reports received by the Civil Aeronautics Administration for the period January 1, 1935, to October 25, 1940, and thereby permit the airplane designer and others to benefit by the field experience of owners and operators of civil aircraft of the United States. The summary,<sup>2</sup> consisting of two charts, was compiled from (1) Aircraft Structural Failures and Defects Reports and (2) Mechanical Interruption in Flight Reports.

1. *Aircraft Structural Failures and Defects Reports* are used by investigators, inspectors, owners, and operators to report structural failures and defects on airplane elements in service, even though such

failures have not necessarily resulted in an accident.

2. *Mechanical Interruption in Flight Reports* are used by the air-carrier operators to report mechanical troubles which cause scheduled flights to be delayed or interrupted on account of mechanical trouble affecting the safe operation of such airplanes.

#### Discussion

It should be kept in mind that it is difficult to obtain 100 percent accuracy in a summary of this type due to the inherent uncertainty of evidence, brevity of reports in some cases, and unsubstantiated statements of reporting parties. The contributing causes listed on Chart No. 1 are particularly susceptible to some inaccuracies due to the above-mentioned reasons. Failures and defects traceable to poor piloting technique, pilot errors, etc., have been eliminated, insofar as possible, from the cases covered in the summary.

Out of a total of 1,655 cases reported, 53.42 percent have no well-defined contributing causes, although a large percentage of these cases must be considered to be due to undetected damage resulting from previous severe operations. For example, a fairly large number of landing-gear failures are accompanied by reports which specify "normal landing." In many of these cases the landing-gear structure no doubt was subjected to loadings in previous operations which produced hidden damage and the structure actually did finally fail under comparatively normal handling. Note that of the total cases reported (1,655), 463 out of 791 landing-gear failures (or 58.53 percent) were without well-defined contributing causes. A similar explanation can be applied to those cases of this group which involved wing and other component parts. However, 46.58 percent of the failures and defects (771) can be charged to the following contributing causes:

1. *Inadequate maintenance* (65.24 percent—503—of the contributing causes).

The detail breakdown is as follows:

Component	Total number failures and defects	Number of failures and defects due to inadequate maintenance	Percent due to inadequate maintenance	Number of fatal accidents	Number of accidents resulting in injury
Landing gear.....	791	220	43.75	0	0
Wing.....	284	80	15.90	24	7
Control system.....	191	114	22.66	11	18
Control surface.....	129	30	5.96	0	0
Fuselage.....	206	44	8.75	2	1
Engine mount.....	54	15	2.98	0	0

2. *Faulty factory workmanship* (23.30 percent—172—of the contributing causes).

The detail breakdown is as follows:

Component	Total number failures and defects	Number of failures and defects due to faulty factory workmanship	Percent due to faulty factory workmanship	Number of fatal accidents	Number of accidents resulting in injury
Landing gear.....	791	74	43.02	0	0
Wing.....	284	12	6.98	0	0
Control system.....	191	39	22.67	2	3
Control surface.....	129	20	11.63	3	1
Fuselage.....	206	21	12.21	2	0
Engine mount.....	54	6	3.49	0	0

3. *Faulty repairs* (8.44 percent—65—of the contributing causes).

The detail break-down is as follows:

Component	Total number of failures and defects	Number of failures and defects due to faulty repair	Percent due to faulty repair	Number of fatal accidents	Number of accidents resulting in injury
Landing gear.....	791	34	52.31	0	0
Wing.....	284	13	20.00	3	4
Control system.....	191	3	4.62	0	2
Control surface.....	129	3	12.30	2	3
Fuselage.....	206	3	4.62	0	1
Engine mount.....	54	4	6.15	0	0

4. *Flutter* (1.56 percent—12—of the contributing causes).

This item accounts for at least nine and probably more of the cases charted as wing spar failures and three of the cases charted as movable control surface fittings. Design details, mass distributions in control surfaces, and rigidity of various components play important roles in these phenomena. There is a possibility that a greater number were caused by flutter, but the evidence is not conclusive.

<sup>1</sup> Excludes engines, propellers, and fuel- and oil-system difficulties which are the subject of a separate survey.

<sup>2</sup> Not reproduced here because of space limitations.



#### 5. Acrobatics (2.46 percent—19—of the contributing causes).

Only cases of failures experienced during severe acrobatic maneuvers involving excessive speeds or accelerations are included in this heading.

### Explanation of Charts

Chart No. 1 shows a break-down of the reports into: (1) the number of failures; (2) the operating conditions when failures occurred; (3) the results of the failures to occupants of the airplanes; and (4) finally the number of defects. Defects, usually found on the ground, include the interruptions to scheduled flights of air-carrier aircraft. Chart No. 2 shows the total number of failures and defects with a break-down by airplane gross weight classifications. In weight classifications the aircraft were divided into four groups: (1) the light primary trainers and private-owner planes (up to 1,500 pounds), (2) the secondary trainers and allied planes (1,501 to 3,000 pounds), (3) the intermediate class (3,001 to 6,000 pounds), and (4) the heavier airplanes, including the air-carrier types (6,001 pounds and up).

### Conclusions

#### 1. Ease of maintenance must be emphasized in the design stage.

Though the relatively large number of inadequate maintenance cases may, on first thought, be considered excusable insofar as the airplane design is concerned, the analysis indicates that improvements in design from a maintenance standpoint by making aircraft components less susceptible to malfunctioning from lack of proper care would materially reduce the number of difficulties and thus effectively increase the safety of flying. It should be borne in mind that points most frequently in need of inspection on an airplane are control cables at pulleys and fairleads, control linkages, and all moving parts and locations where wear is likely to occur and where lubrication is required. Satisfactory maintenance of these elements can only be carried out if the number, size, and location of inspection openings are such as to give adequate accessibility.

#### 2. Proper detail design, competent workmen, and thorough inspection are essential.

The relatively high percentage of cases chargeable to factory workmanship suggests the need for careful selection of competent workmen and emphasizes the necessity of having an efficient inspection organization. However, in a number of these cases, though faulty workmanship was a primary fac-

tor, a contributing cause involves the design of parts and fittings that require particularly difficult or impractical shop operations. Welding and sheet metal forming appear to require special attention in this respect.

#### 3. Repairs should be made only by competent personnel.

An analysis of the cases of faulty repairs indicates that in the majority of cases the repairs were made by other than a manufacturer, certificated repair station, or certificated mechanic. This fact seems to prove what appears to be common sense, namely that owners should entrust repairs to these agencies only.

#### 4. Adequate flutter prevention measures are essential.

Searching investigations of the critical flutter speeds of wings and control surfaces on high performance aircraft and very careful attention to design details, mass distribution in control surfaces, rigidity of various components and proper control of the balance status of each surface prior to final assembly on all airplanes will, it is felt, effectively eliminate flutter as a contributing cause of structural failures and defects.

#### 5. Aircraft should be operated within the limits for which they are designed and placarded.

Continued emphasis on operations manuals and the issuance of useful publications making clear that aircraft structures can be overloaded by poorly executed acrobatic maneuvers will tend to decrease the number of structural failures and defects chargeable to this source.

#### 6. A category system of airworthiness standards is desirable.

The development of a category system, now well under way, should greatly reduce the abuse of operations limitations and consequently the number of accidents.

It is hoped that the presentation of these data in a form readily usable by designers and other interested parties as a guide on where to place special emphasis in their work in order to improve the safety of airplanes. It is our intention to issue sketches from time to time, as supplements to Civil Aeronautics Manual 04, showing generalizations of actual cases of poor design practice which have caused or contributed to failure, together with a suggested corrective change. These will be issued as the failures or defects are encountered and should therefore be of optimum usefulness.

Suggestions and criticism of this report are invited and should be addressed to the Chief, Aircraft Airworthiness Section, Civil Aeronautics Administration, Washington, D. C.

## Ski-Testing Report Now Available

Information relative to ski-testing procedure has been prepared by the Civil Aeronautics Administration and is available to interested persons.

The discussion has been published as Aircraft Airworthiness Section Report No. 20, and should be helpful to all who desire to obtain approval of skis by substantiating their strength by static tests.

Requests for copies of the report should be addressed to the Correspondence Division, Civil Aeronautics Administration, Washington, D. C. Any comments or questions concerning the text should be made to the Aircraft Airworthiness Section.

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## NEW TYPE APPROVALS

(Approval numbers and dates of assignment in parentheses)

### Type Certificates

#### Engines

Air-cooled, Franklin 4AC-199, 4-cylinder horizontal opposed air-cooled, 90 horsepower at 2,500 revolutions per minute at sea-level pressure altitude (226, December 18, 1940).

#### Propellers

Gardner, 245 and 261; wood; diameter: Model 245, 6 feet 6 inches; model 261, 6 feet 5 inches; pitch: Model 245, 3 feet 11 inches; model 261, 4 feet 7 inches; 75 horsepower, 2,100 revolutions per minute (759, December 18, 1940).

## NEW MODELS ADDED TO OLD-TYPE APPROVALS

(Approval numbers and dates of approval of new models in parentheses)

#### Aircraft

Lockheed, 18-50, 17-place, closed land monoplane. Engines, 2 Wright Cyclones GR-1820G-202A, geared 3:2 (type certificate No. 723, December 20, 1940).

#### Engines

Warner, Scarab Series 50, 7 cylinders, radial air-cooled, 125 horsepower at 2,050 revolutions per minute at sea-level pressure altitude (approved type certificate No. 2, December 19, 1940).

Warner, Scarab Jr. Series 50, 5 cylinders, radial air-cooled, 90 horsepower at 2,025 revolutions per minute at sea-level pressure altitude (approved type certificate No. 54, December 19, 1940).

Rearwin, Ken-Royce 90 5G, 5 cylinders, radial air-cooled, 90 horsepower at 2,250 revolution per minute at sea-level pressure altitude (type certificate No. 46, December 26, 1940).

#### Propellers

U. S. Air Industries, 5726F, wood, 6 feet 4 inches diameter, 4 feet 7 inches pitch, 65 horsepower, 2,200 revolutions per minute (type certificate No. 752, December 18, 1940).  
Fahlin, D-735, wood, 6 feet 10 inches diameter, 5 feet 5 inches pitch, 150 horsepower, 2,260 revolutions per minute (type certificate No. 585, December 19, 1940).

# Airways and Airports

## Cincinnati-Detroit Airway Redesignated by Amendment

Col. Donald H. Connolly, Administrator of Civil Aeronautics, has signed an amendment redesignating red civil airway No. 27, between Cincinnati, Ohio, and Detroit, Mich. The full text of the amendment follows:

1. By amending section 2 (c) (27), as amended, to read as follows:

"(27) Red civil airway No. 27 (Cincinnati, Ohio, to Detroit, Mich.).—From the Cincinnati, Ohio, radio range station, via the intersection of the center lines of the on-course signals of the northwest leg of the Cincinnati, Ohio, radio range and the southwest leg of the Dayton, Ohio, radio range; Dayton, Ohio, radio range station; the intersection of the center lines of the on-course signals of the northeast leg of the Dayton, Ohio, radio range and the south leg of the Toledo, Ohio, radio range; Toledo, Ohio, radio range station; and the intersection of the center lines of the on-course signals of the north leg of the Toledo, Ohio, radio range and the south leg of the Detroit, Mich. (Wayne County Airport), radio range, to the Detroit, Mich. (Wayne County Airport), radio range station."

This amendment of the Designation of the Civil Airways shall become effective on and after 12:01 a. m. E. S. T., December 13, 1940.

## Airport Projects Approved

In accordance with the provisions of section 303 of the Civil Aeronautics Act, the Administrator of Civil Aeronautics has issued certificates of air navigation facility necessity, authorizing the expenditure of the federal funds in the operation of the following projects:

### ARKANSAS

FORT SMITH—\$25,044 for W. P. A. project, for construction of native-stone administration building including restaurant and facilities for weather-bureau station, airline operations, etc. Perform appurtenant work at municipal airport.

PINE BLUFF—\$69,120 for W. P. A. project, for construction of modern air field, includes clearing, grubbing, grading, sodding, drainage, fencing. Concrete paving, install water facilities, including well, tank and mains. Other incidental work at municipal airport.

### CALIFORNIA

FRESNO—\$508,480 for W. P. A. project, for construction of auxiliary landing field. Work includes demolishing existing structures; leveling and stabilizing; constructing and paving new runways; repaving existing runways; constructing turntables, culverts, drop inlets, hydrants, service roads, and performing incidental work at municipal airport (Chandler Field).

LONG BEACH—\$71,100 for W. P. A. project, for construction of hangar. Work includes installing utilities and operating facilities, constructing warm-up mats, ramps, walks, and aprons; excavating; grading; surfacing; erecting fence; relocating buildings and transformer vault; and performing appurtenant work at municipal airport.

SALINAS—\$310,630 for W. P. A. project, for construction of landing field including excavation, grading, and surfacing of runway; and drainage work, including installation of pipe, building catch basins, drop outlets and manholes, with incidental work at municipal airport.

SAN DIEGO—\$395,000 for W. P. A. project, including excavation, backfilling, grading, filling, surfacing, oiling, and paving runways and streets; extending runways; completing the construction of hangars and control-station building; constructing walks, walls, and steps; fences; installing water and sewer connections; building seaplane facilities, installing and constructing lighting and power facilities; making and placing storm drains; and performing affiliated items of work at municipal airport (Lindbergh Field).

### CONNECTICUT

HARTFORD—\$256,314 for W. P. A. project, including construction of 44 manholes, trench excavation and backfill, items of seeding, fertilizing, subgrade conditioning, installation of field lighting equipment and appurtenant work at Brainard Field.

### FLORIDA

FORT MYERS—\$107,749 for W. P. A. project, for constructing southwest-northeast runway and east-west runway with compacted-shell base; construct pipe drainage line and incidental and appurtenant work at Lee County Airport.

OCALA—\$101,078 for W. P. A. project, for extending two runways, surface-treated lime-rock, including clearing, grading, draining, sprigging, paving, and power line right-of-ways, and performing incidental and appurtenant work at City-County Airport.

QUINCY—\$78,558 for W. P. A. project, for clearing and grubbing approaches to landing strips, grade landing strips and runways. Tear down houses and hangar. Construct fences and erect hangar. Perform incidental work at municipal airport.

### GEORGIA

Macon—\$315,451 for W. P. A. project, for grading, draining, constructing base and paving runways, grassing and sodding, relocating and installing field lighting system, installing water pipe, and performing incidental work at Herbert Smart Municipal Airport.

### INDIANA

INDIANAPOLIS—\$1,212,000 for W. P. A. project, including drainage and grading, construction of concrete runways, field lighting, electrically-equipped control tower, and other related work at Stout Field, Indiana National Guard Airport.

### MAINE

CARIBOU—\$161,104 for W. P. A. project, calling for an east-west runway, including safety bands. Includes grading, drainage, basing, and hard surfacing between stations. Installation of runway lighting system and beacon lights at municipal airport.

HOULTON—\$239,512 for W. P. A. project, development to include northeast-southwest runway and east-west runway with safety bands. Work will include clearing, grading, drainage, excavation and fill. Installation of complete airport lighting system including boundary and runway lights and air beacons at municipal airport. Also, \$185,308 for W. P. A. project, including widening, improving, and constructing runways; installing drainage and lighting facilities and safety bands; surfacing, clearing, grading, excavating, and performing appurtenant work at municipal airport.

PRINCETON—\$399,874 for W. P. A. project, involving excavation and fill for preparation of subbase, placing, and stabilization of gravel base course, grading of landing strips area, clearing and grubbing, installation of drainage and lighting system, and all incidental work at Princeton Airport.

### MINNESOTA

ST. PAUL—\$227,479 for W. P. A. project, including construction of a hangar addition; excavating; backfilling; constructing footings, walls, erecting steel and constructing roof; installing plumbing, heating, and electrical facilities, including remodeling and extending the facilities of the existing hangar at municipal airport (Holman Field).

### MISSISSIPPI

JACKSON—\$829,252 for W. P. A. project, including clearing, grubbing, grading, draining, installing culverts, underground drains, drop inlets, manholes, removing paving, placing base, surfacing, removing and replacing lighting facilities, fencing, removing fences, seeding and sodding, and incidental work at municipal airport.

### NEBRASKA

FAIRBURY—\$1,392 for N. Y. A. project, including landscaping, graveling of road and parking area, leveling of runway, building cement sidewalk, fence, painting fence, sewer construction, and wiring the administration building at municipal airport.

NORTH PLATTE—\$136,123 for W. P. A. project, to grade, stabilize and surface runways and turnarounds, produce materials, install drain tile and lighting systems, and perform other incidental work at municipal airport.

OMAHA—\$490,614 for W. P. A. project, to grade and surface runways and extensions, relocating fences and lighting and electrical facilities; construct fences and install lighting facilities, construct driveways, aprons, taxi-strip, sidewalks, manholes and catch basins, install drainage pipe, erect guard rails, grade and surface parking area; prepare and seed field; and perform other incidental work at municipal airport.

### NEW YORK

ALBANY—\$247,798 for W. P. A. project, including clearing of wooded area, excavation and grading; widening and clearing main drainage creek, construction of runways and taxi-strips, resurfacing east-west runway, oiling taxi-strips and hangar area; installation of electrical facilities to include underground cable, floodlights, contact lights, boundary lights, and rotating beacon. Removal of two water towers; shortening smokestack and installing blowers at steam plant, and performing incidental work at municipal airport.

TROY—\$210,070 for W. P. A. project, calling for clearing and grubbing, grading, installing drainage system, placing topsoil, seeding, installing lighting system, paving, erecting fences and affiliated items of work at municipal airport.

### NORTH CAROLINA

CHAPEL HILL—\$137,727 for W. P. A. project, including clearing, grubbing, excavating, grading, topsoiling, seeding, and drainage, moving hangar to new location, constructing concrete apron, power and telephone lines, and performing incidental work at University of North Carolina Airport.

### OHIO

TOLEDO—\$213,372 for W. P. A. project, for removing existing macadam surface of the northwest-southeast runway, No. 3, paved area in front of hangars and control tower, construct reinforced concrete pave-

ment, complete lighting system by installation of obstruction markers, floodlights, and incidental work thereto at municipal airport (in Wood County).

**VANDALIA**—\$195,337 for W. P. A. project, for construction of north-south runway, turnarounds, installation of range and boundary lights, installation of drainage, grade, seeding, and other appurtenant work at Dayton Municipal Airport.

#### OKLAHOMA

**OKLAHOMA CITY**—\$376,000 for W. P. A. project, for construction of runways, drainage and lighting and performing appurtenant work at municipal airport.

**TULSA**—\$112,592 for W. P. A. project, for construction of native-stone hangar building, septic tank, grading and clearing site, including quarrying and shaping of necessary native stone for building at municipal airport.

#### OREGON

**PORTLAND**—\$201,352 for W. P. A. project, for construction of concrete apron roads, surfacing, runways, taxiways, paving, installing electrical conduits and facilities, installation of concrete drainage pipe, fencing, water mains, and all incidental work at Portland-Columbia Airport.

#### PENNSYLVANIA

**HARRISBURG**—\$2,880 for N. Y. A. project, for excavation and temporary backfill to fill sinkholes. This soil to be spread and tamped to provide as watertight a seal as possible at municipal airport.

**LOCK HAVEN**—\$504 for N. Y. A. project, for painting roof and exterior sides of hangar and affiliated work at municipal airport.

**WILKES-BARRE**—\$2,106 for N. Y. A. project, calling for painting hangar doors, shop door, steel window sash, tracing roof signs, painting day markers, cones and loading and hauling at Wyoming Valley Airport.

#### SOUTH DAKOTA

**ABERDEEN**—\$47,348 for W. P. A. project, including grading field to even contour, excavation for and laying drainage structures, gravel surfacing runways, installation of field lighting facilities and appurtenant work at municipal airport.

**HUTCHINSON**—\$30,709 for W. P. A. project, consisting of providing subsurface drainage for paved runways in addition to incidental work at W. W. Hoews Municipal Airport. Also, \$1,876 for W. P. A. project, including construction of a wing on hangar, raise and put in Celotex ceiling, and affiliated work at W. W. Hoews Municipal Airport.

#### TENNESSEE

**CROSSWELL**—\$17,775 for W. P. A. project, providing for reducing runway grades, level and condition surface, raise boundary cable, build rock revetment, construct circle marker, clear brush from land, and perform incidental work at Crossville C. A. A. Intermediate Field, Site 7, NA-WA Airway.

#### TEXAS

**ABILENE**—\$247,124 for W. P. A. project, including construction of runways, taxi-strips and drainage facilities, paving runways, widening and paving existing runways; installing additions to lighting system, grading landing field and performing incidental work at municipal airport.

**BRADY**—\$141,631 for W. P. A. project, including clearing site, reconstructing fences; installing boundary and obstruction lights, rotating beacon, wind cone, power lines, water mains and sewer lines; erecting elevated tank; constructing pump house and septic tank and performing incidental work at municipal airport.

#### VIRGINIA

**BLACKSBURG**—\$29,862 for W. P. A. project, including construction of lean-to shop, dope shed and auxiliary rooms, concrete apron and taxi-strips, and such work as is appurtenant to this construction at V. P. I. Airport.

**DANVILLE**—\$33,975 for W. P. A. project, for lengthening and widening runway, constructing drainage facilities, relocating sewer line, power line, county road, and

hangar, landscaping and performing incidental work at municipal airport.

#### WASHINGTON

**EVERETT**—\$407,664 for W. P. A. project, including clearing, grubbing, grading, paving, parking area and taxi-strip; laying drain tile and constructing catch basins; including the construction of access roads and new paved roads, laying water mains; constructing reservoir and pump house and incidental work at Snohomish County Airport.

**HOQUIAM**—\$382,658 for W. P. A. project, calling for construction of one runway, laying drain pipe, constructing manholes and catch basins, surfacing center strip with concrete, install runway lighting, access road and appurtenant work at Moon Island Airport, Grays Harbor.

**YAKIMA**—\$247,658 for W. P. A. project, including clearing, grubbing and grading, constructing drainage ditches, laying pipe, constructing manholes, inlets, reinforced concrete box culvert and fences; installation of lighting system; demolishing existing building, paving concrete turnarounds and performing incidental work at Yakima Airport.

### AERONAUTICAL CHARTS

During December the following new editions of aeronautical charts were issued by the United States Coast and Geodetic Survey. Pilots are warned that the previous editions of the same charts now are obsolete.

Regional charts, a series of 17 scaled at 1:1,000,000, sell for 40 cents each; direction finding charts, a series of 6 scaled at 1:2,000,000, sell for 40 cents each; and sectional charts, a series of 87 scaled at 1:500,000, sell for 25 cents each. On orders grossing \$10 or more, including assortments a 33½ percent discount is allowed.

#### New Regional Aeronautical Chart

**M.** December 1940. Size, 10 by 37 inches. Located in latitude 28°-32° N., longitude 87°30'-97° W., covering an area of about 119,000 square miles. The eleventh of a series of 17 regional aeronautical charts to be published, and embraces the area covered by sectional aeronautical charts Beaumont and New Orleans, and portions of Austin, San Antonio, and Mobile. It is lithographed in 9 colors, showing airports and their names, airways, beacons, compass roses, isogonic lines, radio facilities, etc., in red; radio ranges in pink; railroad and topographic features in black; areas of cities in yellow, and one gradient tint.

#### New Edition of Regional Aeronautical Chart

**M.** November 1940. Size, 32 by 33 inches. Located in latitude 25°-32° N., longitude 80°-87° 30' W., an area of some 270,000 square miles. Gives accumulation of changes since last edition.

#### New Editions of Sectional Aeronautical Charts

**AROOSTOOK.** November 1940. Size, 20 by 38 inches. Located in latitude 46°-48° N., longitude 66°-72° W., an area of about 47,000 square miles. Caribou radio range and civil airways added and accumulation of changes included.

**YELLOWSTONE PARK.** December 1940. Size, 20 by 39 inches. Located in latitude 44°-46° N., longitude 108°-114° W., an area of about 47,000 square miles. North leg of the Billings radio range realigned, civil airways added, and changes accumulated since the last edition included.

### Recognized Dealers

The Coast and Geodetic Survey has announced the addition of the following to the list of recognized dealers authorized to sell charts:

**Hubert & Dillon Air Service, Inc., Box 177-S, Tacoma, Wash.**  
**Nashville Flying Service, Municipal Airport, Nashville, Tenn.**

### State Officials

(Continued from page 40)

#### IDAHO

All promotional and regulatory authority over aeronautics in Idaho is vested in the Department of Public Works.

**Department of Public Works—Division of Aeronautics:**

\*W. H. Hill, director of aeronautics, State House, Boise.

#### ILLINOIS

Jurisdiction over aeronautics is divided between the Illinois Aeronautics Commission and the Illinois Commerce Commission, the latter body dealing only with common carriage.

**Illinois Aeronautics Commission:**

Colonel L. P. Bonfoey, chairman, Quincy.  
M. L. Horner, Jr., Commissioner, 251 East Grand Avenue, Chicago.  
Edw. J. Lorenz, Commissioner, Corner Main at Sixth, Belleville.  
Carl P. Slane, Commissioner, % The Journal-Transcript, Inc., Peoria.  
\*George C. Roberts, secretary, Springfield, State House.

**Illinois Commerce Commission:**

\*Howard C. Knotts, Aviation Supervisor, 205½ South Sixth Street, Springfield.

#### INDIANA

There is no State aviation body in Indiana.

\*C. F. Cornish, Municipal Airport, Fort Wayne. (Appointed chairman of Governor's Fact Finding Committee.)

#### IOWA

**Iowa Aeronautics Commission:**

\*Lt. Col. Charles W. Gatschet, chairman, Des Moines.  
Brig. Gen. Charles H. Grahl, secretary, Des Moines.  
Lt. Col. Wm. A. Bevan, technical advisor, Ames.  
Dan Hunter, Cedar Rapids.

#### KANSAS

There is no State aviation body in Kansas. Office of the Governor.

#### KENTUCKY

**Kentucky Aeronautics Commission:**

\*A. H. Near, chairman, Bowman Field, Louisville.  
R. W. Davania, Paducah.  
Charles H. Gartrell, Ashland.  
Addison W. Lee, Jr., Louisville.  
H. D. Palmore, Frankfort.  
Jesse Creech, Lexington.

#### LOUISIANA

**Louisiana Aeronautics Commission:**

\*D. O. Langstaff, chairman, New Orleans Airport, New Orleans.  
Louis H. Folse, New Orleans Municipal Airport, New Orleans.

#### MAINE

Maine legislation authorizes the Secretary of State to administer all the provisions of the regulatory act.

(Continued on next page)

## State Officials

(Continued from preceding page)

### Office of Secretary of State:

\*Burtis F. Fowler, chief inspector in charge of aviation, State House, Augusta.

### MARYLAND

#### State Aviation Commission of Maryland:

Dr. Hugh H. Young, chairman, Johns Hopkins Hospital, Monument and Broadway, Baltimore.

\*Major Charles A. Masson, Secretary-Treasurer, 305 Stewart Building, Baltimore.  
Edgar Allen Poe, Jr., Attorney and Counsel, U. S. F. & G. Building, Baltimore.  
Benj. H. Brewster, 3d, Commissioner, 25 South Calvert Street, Baltimore.  
Wm. R. Howard, 2d, Commissioner, Pikesville.

### MASSACHUSETTS

#### Massachusetts Aviation Commission:

Chandler Hovey, chairman, Newton.  
Dr. Jerome Clarke Hunsaker, M. I. T., Cambridge.  
Robert M. Love, Intercity Airlines, Boston.  
Gardiner H. Fiske, Weston.  
John M. Wells, Southbridge.  
\*Crocker Snow, director, Boston Airport.

### MICHIGAN

#### Michigan Board of Aeronautics:

Wm. B. Mayo, chairman, 2272 First National Bank Building, Detroit.  
\*Sheldon B. Steers, director, Department of Aeronautics, Capital City Airport, Lansing.  
A. G. Kettles, assistant director, Department of Aeronautics, Capital City Airport, Lansing.  
Thos. E. Walsh, Commissioner, Grand Rapids Airport, Grand Rapids.  
Oscar G. Olander, Commissioner, Michigan State Police, E. Lansing.  
G. Donald Kennedy, Commissioner, Michigan State Highway Department, Lansing.  
Wm. F. Murray, Commissioner, Detroit.  
J. T. Sharpsteen, Commissioner, Escanaba.  
Bruce Anderson, Commissioner, Lansing.

### MINNESOTA

#### Minnesota Aeronautics Commission:

\*Major Ray S. Miller, chairman, Athletic Club, St. Paul.  
Richard L. Griggs, the Northern National Bank, Duluth.  
Croll Hunter, Northwest Airlines, Municipal Airport, St. Paul.  
Dr. George W. Young.  
Stanley E. Hubbard, 2263 Princeton Avenue, St. Paul.  
Dr. Wm. A. McCadden, 720 LaSalle Building, Minneapolis.

### MISSISSIPPI

There is no State aviation body in Mississippi.

Office of the Governor.

### MISSOURI

There is no State aviation body in Missouri.

\*George B. Logan, legal counsel, N. A. S. A. O., 506 Olive Street, St. Louis.

### MONTANA

Office of the Governor.

### NEBRASKA

#### Nebraska Aeronautics Commission:

Max Kler, chairman, 539 Stuart Building, Lincoln.  
Dr. O. A. Ralston, Valentine.  
W. J. Hotz, 1530 City National Bank Building, Omaha.  
W. S. Rodman, Jr., Kimball.  
C. M. Sharrar, United Air Lines, Omaha.  
\*I. V. Packard, Lincoln, secretary.  
L. E. Tyson, State airport engineer, State House, Lincoln.

### NEVADA

The Nevada legislation does not provide for a state aviation body. The Public Service Commission has jurisdiction solely over aircraft common carriers.

Office of the Governor.

### NEW HAMPSHIRE

The New Hampshire aviation laws and rules and regulations are administered by the Public Service Commission through the Commission's Transportation Department.

#### New Hampshire Public Service Commission:

Winslow E. Melvin, transportation director, Concord.  
\*James F. O'Neill, director of aeronautics, Police Department, Manchester.

### NEW JERSEY

#### New Jersey Department of Aviation:

\*Gill Robb Wilson, State director of aviation, Trenton.  
State Aviation Commission:  
Richard Aldworth, chairman, Newark Airport, Newark.  
Robert L. Copesey, Summit.  
Norman K. Kari, Summit.  
J. William Marklein, Central Airport, Camden.  
Wm. D. Dana, Llewellyn Park, West Orange.

## Editor Praises

### C. A. A. Programs

Howard Waldorf, aviation editor of the Oakland, Calif., *Post ENQUIRER*, on December 31 in summing up the outstanding activities of the year 1940, listed the following:

"America's No. 1 claim to fame—The Civil Aeronautics Administration's Civilian Pilot Training Program and its overnight creation of a huge pilot reservoir for Uncle's Sam's national defense.

"Runner-up.—The \$40,000,000 civilian airport development program."

### NEW MEXICO

#### New Mexico Aeronautics Commission:

\*Col. Harlee Townsend Jr., executive director, Box 1713, Santa Fe.

### NEW YORK

Office of the Governor.

### NORTH CAROLINA

#### North Carolina State Aviation Commission (Study Group):

\*R. Bruce Etheridge, director, Conservation and Development Program, Raleigh.  
Theodore S. Johnson, chief engineer, Department of Conservation and Development, Raleigh.

### NORTH DAKOTA

The North Dakota legislation has placed limited regulatory powers in the Board of Railroad Commissioners.

#### Board of Railroad Commissioners:

Elmer W. Cart, president, Bismarck.  
Elmer Olsen, secretary, Bismarck.  
Ben C. Larkin, member, Bismarck.  
\*Walter J. Brophy, aeronautical engineer, Bismarck.

### OHIO

#### State Bureau of Aeronautics:

\*Earle L. Johnson, director of aeronautics, 913 Wyandotte Building, Columbus.  
Francis G. Lauffer, assistant to the director.

#### Aeronautical Advisory Commission:

John T. Corradi, Columbus.  
George A. Stone, Columbus.  
Gordon K. Bush, Athens.  
John Berry, Cleveland.

### OKLAHOMA

#### Oklahoma Department of Public Safety:

Walter B. Johnson, Commissioner, Oklahoma City.  
\*Owen A. Smith, director, Traffic Control.

### OREGON

#### State Board of Aeronautics (619 Lumbermens Building, Portland):

Arthur W. Whitaker, chairman, Portland.  
Dr. Clarence Gilstrap, LaGrande.  
G. Robert Dodson, Portland.  
Floyd Hart, Medford.  
Lee Eyerly, Salem.  
\*Capt. Leo G. Devaney, State director, Portland (507 Lumbermens Building, Portland).  
Angela M. Meyers, acting secretary, Portland.

### PENNSYLVANIA

The Department of Revenue administers the provisions of the aviation regulatory legislation in Pennsylvania.

#### Department of Revenue, Division of Aeronautics:

\*Victor Dallin, Director, Harrisburg Airport, New Cumberland.

### RHODE ISLAND

#### Advisory Board—Department of Public Works, State Office Building:

Mr. Leroy Gardner, chairman.  
Dr. Maurice Elghine.  
Maj. Stanford McLeod.  
Mr. Thomas Harris.  
Col. William Hoey, Jr.  
\*Willard M. Fletcher, Administrator of Civil Aeronautics, State Airport, Hills-grove, R. I.

### SOUTH CAROLINA

#### South Carolina Aeronautics Commission:

J. P. Williamson, chairman, Greenville.  
Dr. Geo. Benet, Columbia.  
Dr. Geo. Bunch, Cheraw.  
\*Dexter C. Martin, director of aeronautics, Columbia.

### SOUTH DAKOTA

#### South Dakota Aeronautics Commission:

\*T. B. Roberts, Jr., chairman, Pierre.  
John Moodie, Lead.  
Harold W. Markey, Huron.

### TENNESSEE

#### Bureau of Aeronautics:

\*G. J. Paulie, director, 1018 Cotton States Building, Nashville.  
Charles Ragland, Nashville.  
John Lovell, Chattanooga.  
Percy McDonald, Memphis.

### TEXAS

Office of the Governor.

### UTAH

#### Utah State Aeronautics Commission:

W. D. Hammond, chairman, 439 Capitol Bldg., Salt Lake City.  
Preston G. Peterson, vice chairman, Salt Lake City.  
George Abbott, Commissioner, Salt Lake City.  
\*Joseph S. Bergin, director, 439 Capitol Building, Salt Lake City.

(See STATE OFFICIALS, page 51)



# CIVIL AERONAUTICS BOARD

## OFFICIAL ACTIONS



### Abstracts of Opinions, Orders, and Regulations

FOR THE PERIOD JANUARY 1-15, 1941

#### ORDERS

(Upon the request of United Air Lines Transport Corp. to withdraw its Airport Notice, Order Serial No. 788, as appeared in the Civil Aeronautics Journal, Vol. 2, No. 2, has been rescinded and cancelled by the Board and a new order has been given this serial number, as follows:)

**ORDER No. 788:** *Dismissed show cause order directed against Edward C. Watson, Jr.*

The Board on January 14 dismissed its order No. 609-160, issued on June 28, 1940, against Edward C. Watson, Jr., San Carlos, Calif., directing him to show cause why his aircraft engine mechanic certificate No. 11179 should not be suspended or revoked.

**ORDER No. 797:** *Denied petition of Braniff for a rehearing, reargument, or reconsideration of Board Order No. 757.*

The Board on January 2 denied the petition of Braniff Airways, Inc., for rehearing, reargument, or reconsideration of so much of the opinion and order of the Board in the Houston-Louisville case (Order 757) as relates to the issuance to Chicago and Southern Air Lines, Inc., of a certificate of public convenience and necessity authorizing that carrier to operate between Houston and Memphis.

**ORDER No. 798:** *Reopened Boston-Maine rate proceeding to receive additional evidence.*

The Board on January 3 reopened the Boston-Maine Airways, Inc., rate proceeding for the purpose of receiving evidence relating to the designation of schedules for the transportation of mail over the portion of Route No. 27

between Bangor and Moncton for the purpose of making such modifications in the order of the Board as may appear to be appropriate.

**ORDER No. 799:** *Suspended student pilot certificate held by George Tregre for 60 days.*

The Board on January 7 suspended for a period of 60 days student pilot certificate No. S-198323, held by George Tregre, New Orleans, La., for piloting an aircraft on a civil airway while not possessed of any pilot certificate and other violations of the Civil Air Regulations.

**ORDER No. 800:** *Carroll W. Wallis directed to show cause.*

The Board on January 10 directed Carroll W. Wallis, Portland, Oreg., holder of student pilot certificate No. S-23535, to appear before an examiner of the Board and show cause why said certificate should not be revoked, in whole or in part, or suspended, in whole or in part, for violations of the Civil Air Regulations.

**ORDER No. 801:** *Suspended certificate of Victor G. Marks for 60 days.*

The Board on January 10 suspended for a period of 60 days private pilot certificate No. 18168, held by Victor G. Marks, Huntington, L. I., N. Y., for violations of the Civil Air Regulations.

**ORDER No. 802:** *Revoked certificate of William A. Moroney.*

The Board on January 10 revoked student pilot certificate No. S-12232, held by William A. Moroney, Santa Monica, Calif., for violations of the Civil Air Regulations.

**ORDER No. 803:** *Revoked certificate of Paul Lazare.*

The Board on January 10 revoked student pilot certificate No. S-60765, held by Paul Lazare, Seattle, Wash., for violations of the Civil Air Regulations.

**ORDER No. 804:** *Revoked certificate of Wilford W. Stanley.*

The Board on January 10 revoked private pilot certificate No. 65682, held by Wilford W. Stanley, East Orange, N. J., for violations of the Civil Air Regulations.

**ORDER No. 805:** *Revoked certificate of Vester V. Vanlandingham.*

The Board on January 10 revoked student pilot certificate No. S-97976, held by Vester V. Vanlandingham, Oklahoma City, Okla., for violations of the Civil Air Regulations.

**ORDER No. 806:** *Approved Contract C. A. B. No. 121.*

The Board on January 10 approved Contract C. A. B. No. 121, being a resolution of the Air Traffic Conference of America relating to protecting reservations.

**ORDER No. 807:** *Approved Contract C. A. B. No. 123.*

The Board on January 10 approved Contract C. A. B. No. 123, being a resolution of the Air Traffic Conference of America relating to notice of tariff changes.

ORDER No. 808: *Approved Contract C. A. B. No. 173.*

The Board on January 10 approved Contract C. A. B. No. 173, being a resolution of the Air Traffic Conference of America relating to advertising in designated publications.

ORDER No. 809: *Approved interlocking relationships of Norman H. Davis.*

The Board on January 10 approved the interlocking relationships existing or proposed to exist between Norman H. Davis and Pan American Airways, Inc., et al.

ORDER No. 810: *Approved Contract C. A. B. No. 128.*

The Board on January 14 approved Contract C. A. B. No. 128, being a resolution of the Air Traffic Conference of America relating to all-expense tours.

ORDER No. 811: *Granted Pacific Coast Airlines permission to intervene in United case.*

The Board on January 14 granted Pacific Coast Airlines, Inc., permission to intervene in the matter of the proposed nonstop service by United Air Lines Transport Corporation between Fresno and Sacramento, Calif. (Docket No. 517).

ORDER No. 812: *Granted Western Air permission to intervene in United case.*

The Board on January 14 granted Western Air Express Corporation permission to intervene in the matter of the proposed nonstop service by United Air Lines Transport Corporation between Fresno and Sacramento, Calif. (Docket No. 517).

ORDER No. 813: *Amended American's certificate for Route No. 18, to include Bridgeport, Conn., as intermediate point.*

The Board on January 14 amended the certificate of public convenience and necessity of American Airlines, Inc., for Route No. 18, to include Bridgeport, Conn. as an intermediate point, with authorization to transport persons, property, and mail to and from said point.

## Notice

The CIVIL AERONAUTICS JOURNAL carries in this section an abstract of all orders, economic regulations, and rules, and a syllabus of all opinions issued by the Civil Aeronautics Board during the half month ending 2 weeks prior to the date of publication.

### ECONOMIC OPINIONS

All opinions of the Board in economic proceedings are printed individually. They may be obtained on a subscription basis. These are "advance sheets" of the material which later will make up bound volumes of CIVIL AERONAUTICS BOARD REPORTS.

The subscription price for each volume of advance sheets of opinions is \$1. Remittance should be made to the Superintendent of Documents, Government Printing Office, Washington, D. C. Such subscriptions are governed by the quantity of pages rather than by specific periods of time. Current subscriptions include all opinions issued since June 30, 1940, and will continue until the consecutive pagination reaches approximately 800.

NOTE—Advance sheets of economic opinions also may be purchased individually. As each opinion becomes available in printed forms, the title of the case, docket number, order number, date, and price will be listed here. All orders must be sent to the Superintendent of Documents.

Opinions in cases of suspension, revocation, or denial of airman certificates are available in mimeograph form only. Verbatim copies of these may be obtained by addressing a request for each individual order and opinion desired to the Publications and Statistics Division, Civil Aeronautics Administration, Washington, D. C.

### AMENDMENTS TO REGULATIONS

The full text of all amendments to the Civil Air Regulations, except for exceedingly long ones which may be abstracted, also is carried in this section.

On the back cover of each issue appears a table showing the status of the Civil Air Regulations and the effective amendments thereto. Full instructions for obtaining parts and amendments accompany the table.

ORDER No. 814: *Approved Contract C. A. B. No. 150.*

The Board on January 14 approved Contract C. A. B. No. 150, being an agreement filed by the Air Traffic Conference of America relating to agents' use of names.

ORDER No. 815: *Extended time limit for Mid-Continent temporary suspension of service at Aberdeen, S. Dak.*

The Board on January 14 extended until May 1, 1941, the time during which Mid-Continent Airlines, Inc., is authorized to suspend temporarily service at Aberdeen, S. Dak.

## REGULATIONS

REGULATION No. 134: *The Board on January 7 adopted Amendment No. 89 of the Civil Air Regulations, "Revising the Radio Equipment Required for the Certification of an Air Carrier for the Carriage of Goods in Air Transportation." The full text of the amendment follows:*

Effective January 7, 1941, Part 40, as amended, of the Civil Air Regulations is amended as follows:

(1) By amending section 40.305 to read as follows:

"40.305 *Radio facilities.* Applicant shall show an adequate two-way ground to aircraft communication system which, under normal operating conditions, shall be capable of maintaining communication with all aircraft of the applicant in flight over the proposed regular or alternate route."

(2) By amending section 40.315 to read as follows:

"40.315 *Radio facilities.* Same as in § 40.305."

(3) By amending section 40.335 to read as follows:

"40.335 *Radio equipment.* Applicant shall show that each aircraft is equipped with a type certificated two-way radio telephone system having sufficient power to permit communication under normal operating conditions with at least one ground station used or to be used by the applicant on the regular or alternate route. Such system shall be capable of:

(a) communication with other aircraft of the applicant in flight, and

(b) satisfactorily receiving radio range signals and weather broadcasts. Such system shall also include a type certificated audio filter system with suitable switching arrangement to be used in connection with the reception of simultaneous range and voice broadcast if the airway or route to be traversed is equipped with simultaneous type radio range stations."

(4) By amending section 40.345 to read as follows:

"40.345 *Radio equipment.* Same as in § 40.335."

REGULATION No. 135: *The Board on January 7 adopted Amendment No. 90 of the Civil Air Regulations, "Permitting Parachutes Packed by Personnel of the Military Services To Be Carried in a Manner Accessible for Emergency Use." The full text of the amendment follows:*

Effective February 10, 1941, the Civil Air Regulations are amended as follows:

"60.36 *Parachutes.* No parachute shall be carried in a civil aircraft of the United States in a manner available for emergency use unless within the preceding 60 days it has been packed by a person certificated for that purpose in accordance with the Civil Air Regulations or by personnel of the Army, Navy, Marine Corps, or Coast Guard whose regular duty is to pack parachutes for use in such services."

REGULATION No. 136: *The Board on January 14, adopted amendment No. 91 of the Civil Air Regulations, "Regulating Occupancy of Pilots' Compartment." The amendment, making two changes in Part 60 of the CAR, follows:*

Effective March 1, 1941, Part 61 of the Civil Air Regulations, as amended, is amended as follows:

1. By amending section 61.7803 to read as follows:

"61.7803 *Pilots' compartment.* (a) The door or doors between the pilots' compartment and the passenger compartment shall be kept closed during the operation of an air carrier aircraft in scheduled flight. No person not a member of the operating crew shall be admitted to the pilots' compartment during such flight unless his admission is approved by the first pilot, and such person is one of the following: (1) An employee of the Federal government, or of an air carrier or other aeronautical enterprise, whose duties are such that his presence in the cockpit is necessary or advantageous to the conduct of safe air carrier operations or the improvement of the safety of such operations; (2) a person whose presence in such compartment has been specifically authorized by the management of the air carrier operating the aircraft and by the Administrator.

"(b) No person shall occupy a seat in the pilots' compartment or the companionway thereto unless such seat is securely attached to the structure of the aircraft and is provided with a safety belt which shall be kept fastened by the occupant throughout his occupancy of such seat.

"(c) No person not a member of the flight crew, or engaged during flight in the checking of pilots' operations for the Federal government or for the air carrier, shall be admitted to the pilots' compartment during scheduled flight unless a seat is also available for his use in the passenger compartment."

2. By striking section 61.7807.

"\*Federal employees who deal responsibly with matters relating to air carrier safety and such air carrier employees as pilots, dispatchers, meteorologists, communication operators, and mechanics whose efficiency would be increased by familiarity with flight conditions in the pilots' compartment may be considered eligible under this requirement. Employees of traffic, sales, and other air carrier departments not directly related to flight operations cannot be considered eligible unless authorized under (2)."

REGULATION No. 137: *Restricted civil aircraft operation during time of Inaugural Parade.*

The Board on January 14 restricted the operation of civil aircraft within 25 miles of the airspace reservation over the District of Columbia between the hours of 11:30 a. m. and 5:00 p. m. on Inauguration Day, January 20, except in the case of aircraft engaged in scheduled air transportation operated at an altitude not exceeding 1,500 feet, which altitude will be below the altitude at which aircraft of the military services will be operated in maneuvers.

## Medical Examiners

(Continued from page 41)

CALIFORNIA.—Dr. Philip W. McConney, 1902 Main Street, Alturas, Dr. C. Conrad Najjar, Shaffer Bldg., Merced, and Dr. Frank C. Melone, 226 Fallis Bldg., Ontario.

COLORADO.—Dr. Lanning E. Likes, Likes Clinic, Lamar, and Dr. William R. Hirst, 702 North Main Street, Pueblo.

GEORGIA.—Dr. Otis C. Woods, Greene Street, Milledgeville, Dr. Earle S. McKey, Jr., 400 West Central Avenue, Valdosta, and Dr. Benjamin H. Minchew, 701 Elizabeth Street, Waycross.

KANSAS.—Dr. David T. Loy, 2015 Forest, Great Bend.

LOUISIANA.—Dr. John D. Thames, Guess & Kent Building, Hammond.

MASSACHUSETTS.—Dr. Leo J. Cass, 1101 Beacon Street, Brookline.

MICHIGAN.—Dr. Robert E. Kelly, 2002 Division Avenue, S. Grand Rapids, and Dr. Robert J. McClure, Huron Building, Houghton.

MINNESOTA.—Dr. Rosel T. Seashore, Medical Arts Building, Duluth, and Dr. Frederick W. Rehmler, Morris.

MISSISSIPPI.—Dr. DeWitt Hamrick, Filmore and Foote Streets, Corinth, and Dr. Verner S. Holmes, 228 Main Street, McComb.

MISSOURI.—Dr. John Harry Kelm, Kennett, and Dr. Robert Lee Cooper, 122 East Market Street, Warrensburg.

MONTANA.—Dr. Robert E. Ryde, Smith Clinic, Glasgow.

NEBRASKA.—Dr. Dwight Otis Hughes, Fairbury Clinic, Fairbury, and Dr. Malcolm B. Wilcox, 2113½ Central Avenue, Kearney.

NEW JERSEY.—Dr. William E. Mountford, 217 North Warren Street, Trenton.

NEW MEXICO.—Dr. Harry Z. Landis, 101 Oak Street, Clayton.

OHIO.—Dr. Sydney J. Havre, 217 West Market Street, Akron, and Dr. Carl J. Streicher, Medical Building, Ashtabula.

OREGON.—Dr. Julius H. Garnjobst, 514 Pioneer Trust Building, Salem.

PENNSYLVANIA.—Dr. Raymond M. Krepps, 19 North Dorcas Street, Lewistown.

RHODE ISLAND.—Dr. Philip S. Geller, 280 Broadway, Newport.

SOUTH CAROLINA.—Dr. Howard G. Royal, Central Union Building, Greenwood.

TENNESSEE.—Dr. Wilfred C. Carreras, Peavler Building, Bristol, and Dr. William A. Howard, Doctor's Building, Cookeville.

TEXAS.—Dr. Albert L. Nelson, 211 A Main Street, Nacogdoches, and Dr. Paul R. Meyer, 847 Ninth Street, Port Arthur.

VIRGINIA.—Dr. Guy M. Naff, Emporia.

WASHINGTON.—Dr. Joseph L. Greenwell, Pasco Clinic, Title & Trust Building, Pasco. WYOMING.—Dr. Paul F. Miner, Connor Hotel Building, Laramie, and Dr. Jay G. Wanner, First Security Bank Building, 817 Bushnell Avenue, Rock Springs.

CANAL ZONE.—Captain J. D. Morley, M. C. France Field.

The following-named physicians have changed their addresses during the month, their new addresses being as follows:

Dr. Louis LeFevre, 289 West Western Avenue, Muskegon, Mich.

Dr. Thomas J. Holton, 1114 First National Bank Building, Charlotte, N. C.

Dr. Ira S. Ab Planalp, I. O. O. F. Building, Williston, N. Dak.

Dr. Stephen E. Gavin, 104 South Main Street, Fond du Lac, Wis.

The following-named physicians are no longer making examinations for the Administration.

Dr. Ralph M. Sloan, Jonesboro, Ark.

Dr. Max Brannan, Merced, Calif.

Dr. Marcus D. White, Ontario, Calif.  
Dr. Dwight B. Shaw, Pueblo, Colo.  
Dr. Richard Binion, Milledgeville, Ga.  
Dr. Bennett G. Owens, Valdosta, Ga.  
Dr. Braswell E. Collins, Waycross, Ga.  
Dr. Lewis Ent, Cairo, Ill.  
Dr. John A. Dillon, Jr., Great Bend, Kans.  
Dr. Louis S. Leo, Houghton, Mich.  
Dr. Harold J. Freiheit, Fredericktown, Mo.  
Dr. Alfred J. Krefl, Glasgow, Mont.  
Dr. George W. Ainlay, Fairbury, Nebr.  
Dr. Donald Tillou, Elmira, N. Y.  
Dr. Herman G. Rubin, Akron, Ohio.  
Dr. Robert Lee Wood, Salem, Oreg.  
Dr. Harlow H. Taylor, Cookeville, Tenn.  
Dr. Gilbert L. Berry, Blackwell, Okla.  
Dr. W. G. Bishop, Greenwood, S. C.  
Captain C. E. McNany, France Field, C. Z.

## State Officials

(Continued from page 48.)

### VERMONT

The Vermont legislation places the authority for the administration of its aviation provisions in the Motor Vehicle Department, Aviation Section.

#### Motor Vehicle Department, Aviation Section:

Col. M. A. Campbell, Commissioner of Motor Vehicles, Montpelier.

\*Raymond C. Thompson, Inspector of Aeronautics, Montpelier.

Porter Adams, Chairman, Advisory Board of Aeronautics, Northfield.

F. W. Shepardon, Member, Advisory Board of Aeronautics, Burlington.

Walter Cleveland, Member, Advisory Board of Aeronautics, Montpelier.

### VIRGINIA

The State Corporation Commission is empowered to supervise all aeronautical activities in the Commonwealth of Virginia.

#### State Corporation Commission, Division of Aeronautics:

H. Lester Hooker, Commissioner, Richmond.

Thos. W. Ozlin, chairman, Richmond.

Wm. Meade Fletcher, Commissioner, Richmond.

\*A. C. Perkinson, Director of Aviation, Room 924 State Office Building, Richmond.

C. W. Dickinson, Inspector, Room 924 State Office Building, Richmond.

### WASHINGTON

Washington legislation does not provide for any State aviation body.

\*Lacey V. Murrow, Director of Aeronautics, Olympia (designated by Governor).

### WEST VIRGINIA

#### West Virginia Board of Aeronautics:

\*David H. Giltinan, secretary, Charleston.

Burr H. Simpson, chairman, Charleston.

Edward W. Stifel, Wheeling.

Huber H. Stark, inspector.

### WISCONSIN

#### State of Wisconsin Aeronautics Board:

\*Howard A. Morey, chairman, Madison.

### WYOMING

#### State Aviation Commission:

\*John Phifer, chairman, Wheatland.

Fred Wahl, vice chairman, Cheyenne.

Wilfrid O'Leary, secretary, Cheyenne.

# Status of Parts of the Civil Air Regulations and Amendments

As of January 15, 1941

All persons affected by the Civil Air Regulations, including those preparing for examination for certificates, may obtain the parts required from the Publications and Statistics Division, Civil Aeronautics Administration, Washington, D. C., without charge.

## ONLY PARTS ACTUALLY NEEDED SHOULD BE REQUESTED

For example, pilots are governed in general by parts 01, 20, and 60; aircraft mechanics by parts 01, 04, 15, 18, 24, and section 60.32; and aircraft engine mechanics by parts 01, 04, 13, 14, 18, and 24.

## HOW TO ORDER PARTS

Those persons not affected by the C. A. R., but desiring all or any part of the Regulations for other

purposes, may obtain them in the manner herein described. Those parts on which a price is listed in the tabulation below are on sale by the Superintendent of Documents, United States Government Printing Office, Washington, D. C., and are not available for free general distribution.

Eventually, all parts will be placed on sale; meanwhile, parts not yet on sale (carrying remark, in tabulation below, "order from C. A. A. only") may be obtained without charge from the C. A. A., upon demonstration of valid interest on the applicant's part.

Bound volumes of the complete Civil Air Regulations are no longer available.

## IMPORTANT: AMENDMENTS

All amendments to the Civil Air Regulations are printed in the Official Actions section of the CIVIL

AERONAUTICS JOURNAL, as released. (Occasional amendments, too long to print in full, are abstracted to describe fully the nature and purpose of the amendment's provisions so that the individual may determine whether he need order the full text.)

The tabulation below carries in the right-hand column the numbers of all effective amendments to each part issued subsequent to the date of that part. When ordering parts from the C. A. A., all effective amendments are automatically included. But, after ordering parts from the Superintendent of Documents, the amendments received should be checked against this tabulation and those not received ordered from the C. A. A.

NOTE.—Part numbers not included in the list below are unassigned.

Part No.	Title	Date	Remarks	Price	Effective Amendments
<b>AIRCRAFT</b>					
00.	CANCELLED.....		Now incorporated in Part 01.....		
01.	AIRCRAFT REGISTRATION AND AIRWORTHINESS CERTIFICATES.	July 15, 1940	In stock at C. A. A. and on sale at G. P. O.....	\$0.05	68, 75, Administrator's Amend. No. 1.
02.	TYPE AND PRODUCTION CERTIFICATES.	.....do.....	.....do.....	.05	75.
03.	CANCELLED.....		Now incorporated in Part 01.....		
04.	AIRPLANE AIRWORTHINESS <sup>1</sup> .....	May 31, 1938	Reprint, including amendments, to be available soon from C. A. A.		601-A-1, 5, 14, 26, 28, 48, 56, 69, 75, 85. <sup>1</sup>
13.	AIRCRAFT ENGINE AIRWORTHINESS <sup>2</sup> .....	Nov. 15, 1940	In stock; order from C. A. A. only.....		
14.	AIRCRAFT PROPELLER AIRWORTHINESS <sup>3</sup> .....	.....do.....	.....do.....		
15.	AIRCRAFT EQUIPMENT AIRWORTHINESS <sup>3</sup> .....	.....do.....	.....do.....		
16.	AIRCRAFT RADIO EQUIPMENT AIRWORTHINESS.....	Effective Feb. 13, 1941	.....do.....		
18.	REPAIR AND ALTERATION OF AIRCRAFT <sup>4</sup> .....	Nov. 15, 1940	Out of stock at C. A. A.; Now being reprinted.....		
<b>AIRMEN</b>					
20.	PILOT CERTIFICATES.....	May 1, 1940	In stock at C. A. A. and on sale at G. P. O.....	\$0.05	54, 63, 65, 67, 75, 82, 83, 87, 88.
21.	AIRLINE TRANSPORT PILOT RATING.	Nov. 15, 1940	In stock; order from C. A. A. only.....		87.
23.	CANCELLED.....		Now incorporated in Part 51.....		
24.	MECHANIC CERTIFICATES.....	May 1, 1940	Out of stock at C. A. A., but on sale at G. P. O.....	.05	44, 61, 73, 75, 87.
25.	CANCELLED.....		Now incorporated in Part 24.....		
26.	AIR-TRAFFIC CONTROL-TOWER OPERATOR CERTIFICATES.....	Oct. 4, 1940	In stock at C. A. A. and on sale at G. P. O.....	.05	87.
27.	AIRCRAFT DISPATCHER CERTIFICATES.....	July 15, 1940	.....do.....	.05	74, 75, 87.
<b>AIR CARRIERS</b>					
40.	AIR CARRIER OPERATING CERTIFICATION (INTERSTATE).....	Nov. 1, 1940	In stock at C. A. A. and on sale at G. P. O.....	\$0.05	85, 89. <sup>5</sup>
<b>AIR AGENCIES</b>					
50.	FLYING SCHOOL RATING <sup>1</sup> .....	Nov. 1, 1940	In stock at C. A. A. and on sale at G. P. O.....	\$0.05	87.
51.	GROUND INSTRUCTOR RATING.....	May 1, 1940	Out of stock at C. A. A., but on sale at G. P. O.....	.05	75, 87.
52.	REPAIR STATION RATING <sup>1</sup> .....	.....do.....	.....do.....	.05	75, 87, 85. <sup>6</sup>
53.	MECHANIC SCHOOL RATING <sup>2</sup> .....	Sept. 15, 1940	In stock at C. A. A. and on sale at G. P. O.....	.05	75, 87.
<b>AIR NAVIGATION</b>					
60.	AIR TRAFFIC RULES <sup>1</sup> .....	Oct. 4, 1940	In stock at C. A. A. and on sale at G. P. O.....	\$0.10	76, 77, 80, 86, 90. <sup>7</sup>
61.	SCHEDULED AIR CARRIER RULES (INTERSTATE).....	May 31, 1938	Out of stock; to be available soon at C. A. A. and on sale at G. P. O.....		601-A-1, 51, 52, 75, 91. <sup>8</sup>
<b>MISCELLANEOUS<sup>4</sup></b>					
90.	DEFINITIONS.....	Nov. 15, 1940	In stock; order from C. A. A. only.....		
99.	MODE OF CITATION OF REGULATIONS.....	.....do.....	.....do.....		

<sup>1</sup> Manual out of stock.

<sup>2</sup> Manual not yet issued.

<sup>3</sup> Supplementary Manual for this part available; order from C. A. A. only.

<sup>4</sup> Parts 90.-96., inclusive, have been cancelled.

<sup>5</sup> Effective date, Feb. 13, 1941.

<sup>6</sup> Effective date, Feb. 11, 1941.

<sup>7</sup> Effective date, Feb. 10, 1941.

<sup>8</sup> Effective date, Mar. 1, 1941.



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